

Main Criteria: Cogent Education's Interactive Cases

Secondary Criteria: Florida Standards

Subject: Science

Grades: 9, 10, 11, 12



Title	Common Among States	Florida Standards	Florida Standards	Florida Standards	Florida Standards
Action Potential -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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<p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.22. - Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p> <p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p>	<p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1. - Text Types and Purposes</p> <p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

SC.912.N.1.1.4. - Review what is known in light of empirical evidence

SC.912.N.1.1.5. - Plan investigations

SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events

SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)

SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others

SC.912.N.1.1.10. - Communicate results of scientific investigations, and

SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.

SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.

SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.

SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.

SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.

FL.SC.912.L. - Life Science

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FL.SC.912.L. - Life Science

<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p> <p>SC.912.L.14.36. - Describe the factors affecting blood flow through the cardiovascular system.</p> <p>SC.912.L.14.40. - Describe the histology of the major arteries and veins of systemic, pulmonary, hepatic portal, and coronary circulation.</p> <p>SC.912.L.14.44. - Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.</p> <p>SC.912.L.14.46. - Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p> <p>SC.912.L.18.8. - Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.</p> <p>SC.912.L.18.9. - Explain the interrelated nature of photosynthesis and cellular respiration.</p> <p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p>	<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. 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Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p>	<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p> <p>SC.912.L.14.36. - Describe the factors affecting blood flow through the cardiovascular system.</p> <p>SC.912.L.14.40. - Describe the histology of the major arteries and veins of systemic, pulmonary, hepatic portal, and coronary circulation.</p> <p>SC.912.L.14.44. - Describe the physiology of the respiratory system including the mechanisms of ventilation, gas exchange, gas transport and the mechanisms that control the rate of ventilation.</p> <p>SC.912.L.14.46. - Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p> <p>SC.912.L.18.8. - Identify the reactants, products, and basic functions of aerobic and anaerobic cellular respiration.</p> <p>SC.912.L.18.9. - Explain the interrelated nature of photosynthesis and cellular respiration.</p> <p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p>
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<p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>	<p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p>
<p>FLAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS LAFS.910.WHST.1. - Text Types and Purposes</p>	<p>FLAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS LAFS.910.WHST.1. - Text Types and Purposes</p>	<p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p>	<p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p>
<p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p>	<p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p>
<p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p>	<p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence. LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p>	<p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>	<p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence. LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p>
<p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>
<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>
<p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>
<p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>
<p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>	<p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>	<p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>	<p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>
<p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p>	<p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p>	<p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p>	<p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p>
<p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>LAFS.1112.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>	<p>LAFS.1112.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p>
<p>LAFS.910.WHST.2. - Production and Distribution of Writing</p>	<p>LAFS.910.WHST.2. - Production and Distribution of Writing</p>	<p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p>	<p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p>
<p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>

				LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). LAFS.1112.WHST.2. - Production and Distribution of Writing LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.	LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic). LAFS.1112.WHST.2. - Production and Distribution of Writing LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
Diffusion -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p>

<p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.36. - Describe the factors affecting blood flow through the cardiovascular system.</p> <p>SC.912.L.14.40. - Describe the histology of the major arteries and veins of systemic, pulmonary, hepatic portal, and coronary circulation.</p> <p>SC.912.L.14.45. - Describe the histology of the alimentary canal and its associated accessory organs.</p> <p>SC.912.L.14.46. - Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.</p> <p>SC.912.L.16. - Heredity and Reproduction - A. DNA stores and transmits genetic information. Genes are sets of instructions encoded in the structure of DNA. B. Genetic information is passed from generation to generation by DNA in all organisms and accounts for similarities in related individuals. C. Manipulation of DNA in organisms has led to commercial production of biological molecules on a large scale and genetically modified organisms. D. Reproduction is characteristic of living things and is essential for the survival of species.</p> <p>SC.912.L.16.14. - Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.</p> <p>SC.912.L.16.17. - Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p>	<p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p>	<p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.1112.WHST.1. - Text Types and Purposes</p> <p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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Filtration -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FLSC.912.L. - Life Science</p>	<p>FLSC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.36. - Describe the factors affecting blood flow through the cardiovascular system.</p> <p>SC.912.L.14.40. - Describe the histology of the major arteries and veins of systemic, pulmonary, hepatic portal, and coronary circulation.</p> <p>SC.912.L.14.45. - Describe the histology of the alimentary canal and its associated accessory organs.</p> <p>SC.912.L.14.46. - Describe the physiology of the digestive system, including mechanical digestion, chemical digestion, absorption and the neural and hormonal mechanisms of control.</p> <p>SC.912.L.14.47. - Describe the physiology of urine formation by the kidney.</p> <p>SC.912.L.14.48. - Describe the anatomy, histology, and physiology of the ureters, the urinary bladder and the urethra.</p>	<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. 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<p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - 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Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p> <p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p> <p>FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.1112.WHST.1. - Text Types and Purposes</p> <p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p>	<p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - 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		<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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Membrane Potential -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>

<p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.22. - Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p>	<p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. 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<p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p> <p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>SC.912.L.18. - Matter and Energy Transformations - A. 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Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p> <p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p> <p>FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.1112.WHST.1. - Text Types and Purposes</p> <p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p>
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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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Membrane Transport -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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<p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.22. - Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p>	<p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. 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<p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p> <p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>SC.912.L.18. - Matter and Energy Transformations - A. 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Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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Nitrogen Cycle -	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p>

<p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.2.4. - Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>SC.912.N.2.5. - Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.17. - Interdependence - A. The distribution and abundance of organisms is determined by the interactions between organisms, and between organisms and the non-living environment. B. Energy and nutrients move within and between biotic and abiotic components of ecosystems via physical, chemical and biological processes. C. Human activities and natural events can have profound effects on populations, biodiversity and ecosystem processes.</p>	<p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. 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Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>SC.912.N.2.5. - Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.17. - Interdependence - A. The distribution and abundance of organisms is determined by the interactions between organisms, and between organisms and the non-living environment. B. Energy and nutrients move within and between biotic and abiotic components of ecosystems via physical, chemical and biological processes. C. Human activities and natural events can have profound effects on populations, biodiversity and ecosystem processes.</p>	<p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p> <p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.2.4. - Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.</p> <p>SC.912.N.2.5. - Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.17. - Interdependence - A. The distribution and abundance of organisms is determined by the interactions between organisms, and between organisms and the non-living environment. B. Energy and nutrients move within and between biotic and abiotic components of ecosystems via physical, chemical and biological processes. C. Human activities and natural events can have profound effects on populations, biodiversity and ecosystem processes.</p>
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SC.912.L.17.6. - Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.10. - Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.17.15. - Discuss the effects of technology on environmental quality.

SC.912.L.17.16. - Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

SC.912.L.17.20. - Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.

SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.

SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.

SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.

FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12

LAFS.910.RST.1. - Key Ideas and Details

LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LAFS.910.RST.2. - Craft and Structure

LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

LAFS.910.RST.4. - Range of Reading and Level of Text Complexity

LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS

LAFS.910.WHST.1. - Text Types and Purposes

LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.

LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

SC.912.L.17.6. - Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.10. - Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.17.15. - Discuss the effects of technology on environmental quality.

SC.912.L.17.16. - Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

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SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.

FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12

LAFS.910.RST.1. - Key Ideas and Details

LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.

LAFS.910.RST.2. - Craft and Structure

LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).

LAFS.910.RST.4. - Range of Reading and Level of Text Complexity

LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.

FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS

LAFS.910.WHST.1. - Text Types and Purposes

LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.

LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.

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SC.912.L.17.15. - Discuss the effects of technology on environmental quality.

SC.912.L.17.16. - Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

SC.912.L.17.20. - Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.

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SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.

SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.

FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12

LAFS.1112.RST.1. - Key Ideas and Details

LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LAFS.1112.RST.2. - Craft and Structure

LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

LAFS.1112.RST.3. - Integration of Knowledge and Ideas

LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity

LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.

FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS

LAFS.1112.WHST.1. - Text Types and Purposes

SC.912.L.17.6. - Compare and contrast the relationships among organisms, including predation, parasitism, competition, commensalism, and mutualism.

SC.912.L.17.10. - Diagram and explain the biogeochemical cycles of an ecosystem, including water, carbon, and nitrogen cycle.

SC.912.L.17.15. - Discuss the effects of technology on environmental quality.

SC.912.L.17.16. - Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.

SC.912.L.17.20. - Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.

SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.

SC.912.L.18.1. - Describe the basic molecular structures and primary functions of the four major categories of biological macromolecules.

SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.

SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.

FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12

LAFS.1112.RST.1. - Key Ideas and Details

LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.

LAFS.1112.RST.2. - Craft and Structure

LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.

LAFS.1112.RST.3. - Integration of Knowledge and Ideas

LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.

LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity

LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.

FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS

LAFS.1112.WHST.1. - Text Types and Purposes

		<p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience's knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience's knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
Osmosis -	FL	FL.SC.912.N. - Nature of Science	FL.SC.912.N. - Nature of Science	FL.SC.912.N. - Nature of Science	FL.SC.912.N. - Nature of Science

SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

SC.912.N.1.1.4. - Review what is known in light of empirical evidence

SC.912.N.1.1.5. - Plan investigations

SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events

SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)

SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others

SC.912.N.1.1.10. - Communicate results of scientific investigations, and

SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.

SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.

SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.

SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.

SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.

FL.SC.912.L. - Life Science

SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

SC.912.N.1.1.4. - Review what is known in light of empirical evidence

SC.912.N.1.1.5. - Plan investigations

SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events

SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)

SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others

SC.912.N.1.1.10. - Communicate results of scientific investigations, and

SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

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SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.

SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.

SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.

SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.

FL.SC.912.L. - Life Science

SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

SC.912.N.1.1.4. - Review what is known in light of empirical evidence

SC.912.N.1.1.5. - Plan investigations

SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events

SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)

SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others

SC.912.N.1.1.10. - Communicate results of scientific investigations, and

SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.

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FL.SC.912.L. - Life Science

<p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.16. - Heredity and Reproduction - A. DNA stores and transmits genetic information. Genes are sets of instructions encoded in the structure of DNA. B. Genetic information is passed from generation to generation by DNA in all organisms and accounts for similarities in related individuals. C. Manipulation of DNA in organisms has led to commercial production of biological molecules on a large scale and genetically modified organisms. D. Reproduction is characteristic of living things and is essential for the survival of species.</p> <p>SC.912.L.16.14. - Describe the cell cycle, including the process of mitosis. Explain the role of mitosis in the formation of new cells and its importance in maintaining chromosome number during asexual reproduction.</p> <p>SC.912.L.16.17. - Compare and contrast mitosis and meiosis and relate to the processes of sexual and asexual reproduction and their consequences for genetic variation.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p>	<p>SC.912.L.14. - Organization and Development of Living Organisms - A. 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SC.912.N.2.4. - Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.

SC.912.N.2.5. - Describe instances in which scientists' varied backgrounds, talents, interests, and goals influence the inferences and thus the explanations that they make about observations of natural phenomena and describe that competing interpretations (explanations) of scientists are a strength of science as they are a source of new, testable ideas that have the potential to add new evidence to support one or another of the explanations.

SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.

SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:

SC.912.N.1.1.4. - Review what is known in light of empirical evidence

SC.912.N.1.1.5. - Plan investigations

SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events

SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)

SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others

SC.912.N.1.1.10. - Communicate results of scientific investigations, and

SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.

SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.

SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.

SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.

SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.

SC.912.N.2.4. - Explain that scientific knowledge is both durable and robust and open to change. Scientific knowledge can change because it is often examined and re-examined by new investigations and scientific argumentation. Because of these frequent examinations, scientific knowledge becomes stronger, leading to its durability.

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<p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.53. - Discuss basic classification and characteristics of plants. Identify bryophytes, pteridophytes, gymnosperms, and angiosperms.</p> <p>SC.912.L.15. - Diversity and Evolution of Living Organisms - A. The scientific theory of evolution is the fundamental concept underlying all of biology. B. The scientific theory of evolution is supported by multiple forms of scientific evidence. C. Organisms are classified based on their evolutionary history. D. Natural selection is a primary mechanism leading to evolutionary change.</p> <p>SC.912.L.15.6. - Discuss distinguishing characteristics of the domains and kingdoms of living organisms.</p> <p>SC.912.L.17. - Interdependence - A. The distribution and abundance of organisms is determined by the interactions between organisms, and between organisms and the non-living environment. B. Energy and nutrients move within and between biotic and abiotic components of ecosystems via physical, chemical and biological processes. C. Human activities and natural events can have profound effects on populations, biodiversity and ecosystem processes.</p> <p>SC.912.L.17.4. - Describe changes in ecosystems resulting from seasonal variations, climate change and succession.</p> <p>SC.912.L.17.8. - Recognize the consequences of the losses of biodiversity due to catastrophic events, climate changes, human activity, and the introduction of invasive, non-native species.</p> <p>SC.912.L.17.15. - Discuss the effects of technology on environmental quality.</p> <p>SC.912.L.17.16. - Discuss the large-scale environmental impacts resulting from human activity, including waste spills, oil spills, runoff, greenhouse gases, ozone depletion, and surface and groundwater pollution.</p> <p>SC.912.L.17.20. - Predict the impact of individuals on environmental systems and examine how human lifestyles affect sustainability.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. 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Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p> <p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p> <p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p> <p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p>	<p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. 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Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p> <p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p> <p>FL.LAFS.1112.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.1112.WHST.1. - Text Types and Purposes</p> <p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p> <p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. 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include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; 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Synaptic Transmission	FL	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. B: The processes of science frequently do not correspond to the traditional portrayal of "the scientific method." C: Scientific argumentation is a necessary part of scientific inquiry and plays an important role in the generation and validation of scientific knowledge. D: Scientific knowledge is based on observation and inference; it is important to recognize that these are very different things. Not only does science require creativity in its methods and processes, but also in its questions and explanations.</p> <p>SC.912.N.1.1. - Define a problem based on a specific body of knowledge, for example: biology, chemistry, physics, and earth/space science, and do the following:</p> <p>SC.912.N.1.1.4. - Review what is known in light of empirical evidence</p> <p>SC.912.N.1.1.5. - Plan investigations</p> <p>SC.912.N.1.1.7. - Pose answers, explanations, or descriptions of events</p> <p>SC.912.N.1.1.8. - Generate explanations that explicate or describe natural phenomena (inferences)</p> <p>SC.912.N.1.1.9. - Use appropriate evidence and reasoning to justify these explanations to others</p> <p>SC.912.N.1.1.10. - Communicate results of scientific investigations, and</p> <p>SC.912.N.1.3. - Recognize that the strength or usefulness of a scientific claim is evaluated through scientific argumentation, which depends on critical and logical thinking, and the active consideration of alternative scientific explanations to explain the data presented.</p>	<p>FL.SC.912.N. - Nature of Science</p> <p>SC.912.N.1. - The Practice of Science - A: Scientific inquiry is a multifaceted activity; The processes of science include the formulation of scientifically investigable questions, construction of investigations into those questions, the collection of appropriate data, the evaluation of the meaning of those data, and the communication of this evaluation. 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<p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.22. - Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. 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The unique chemical properties of carbon and water make life on Earth possible.</p> <p>SC.912.L.18.3. - Describe the structures of fatty acids, triglycerides, phospholipids, and steroids. Explain the functions of lipids in living organisms. Identify some reactions that fatty acids undergo. Relate the structure and function of cell membranes.</p> <p>SC.912.L.18.4. - Describe the structures of proteins and amino acids. Explain the functions of proteins in living organisms. Identify some reactions that amino acids undergo. Relate the structure and function of enzymes.</p>	<p>SC.912.N.1.6. - Describe how scientific inferences are drawn from scientific observations and provide examples from the content being studied.</p> <p>SC.912.N.1.7. - Recognize the role of creativity in constructing scientific questions, methods and explanations.</p> <p>SC.912.N.2. - The Characteristics of Scientific Knowledge - A: Scientific knowledge is based on empirical evidence, and is appropriate for understanding the natural world, but it provides only a limited understanding of the supernatural, aesthetic, or other ways of knowing, such as art, philosophy, or religion. B: Scientific knowledge is durable and robust, but open to change. C: Because science is based on empirical evidence it strives for objectivity, but as it is a human endeavor the processes, methods, and knowledge of science include subjectivity, as well as creativity and discovery.</p> <p>SC.912.N.2.2. - Identify which questions can be answered through science and which questions are outside the boundaries of scientific investigation, such as questions addressed by other ways of knowing, such as art, philosophy, and religion.</p> <p>SC.912.N.3. - The Role of Theories, Laws, Hypotheses, and Models - The terms that describe examples of scientific knowledge, for example: "theory," "law," "hypothesis" and "model" have very specific meanings and functions within science.</p> <p>SC.912.N.3.5. - Describe the function of models in science, and identify the wide range of models used in science.</p> <p>FL.SC.912.L. - Life Science</p> <p>SC.912.L.14. - Organization and Development of Living Organisms - A. Cells have characteristic structures and functions that make them distinctive. B. Processes in a cell can be classified broadly as growth, maintenance, reproduction, and homeostasis. C. Life can be organized in a functional and structural hierarchy ranging from cells to the biosphere. D. Most multicellular organisms are composed of organ systems whose structures reflect their particular function.</p> <p>SC.912.L.14.2. - Relate structure to function for the components of plant and animal cells. Explain the role of cell membranes as a highly selective barrier (passive and active transport).</p> <p>SC.912.L.14.21. - Describe the anatomy, histology, and physiology of the central and peripheral nervous systems and name the major divisions of the nervous system.</p> <p>SC.912.L.14.22. - Describe the physiology of nerve conduction, including the generator potential, action potential, and the synapse.</p> <p>SC.912.L.14.30. - Compare endocrine and neural controls of physiology.</p> <p>SC.912.L.18. - Matter and Energy Transformations - A. All living things are composed of four basic categories of macromolecules and share the same basic needs for life. B. Living organisms acquire the energy they need for life processes through various metabolic pathways (primarily photosynthesis and cellular respiration). C. Chemical reactions in living things follow basic rules of chemistry and are usually regulated by enzymes. D. 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<p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.910.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.910.RST.1. - Key Ideas and Details</p> <p>LAFS.910.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to the precise details of explanations or descriptions.</p> <p>LAFS.910.RST.2. - Craft and Structure</p> <p>LAFS.910.RST.2.5. - Analyze the structure of the relationships among concepts in a text, including relationships among key terms (e.g., force, friction, reaction force, energy).</p> <p>LAFS.910.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.910.RST.4.10. - By the end of grade 10, read and comprehend science/technical texts in the grades 9–10 text complexity band independently and proficiently.</p>	<p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p> <p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p>	<p>SC.912.L.18.11. - Explain the role of enzymes as catalysts that lower the activation energy of biochemical reactions. Identify factors, such as pH and temperature, and their effect on enzyme activity.</p> <p>FL.LAFS.1112.RST. - READING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS 6-12</p> <p>LAFS.1112.RST.1. - Key Ideas and Details</p> <p>LAFS.1112.RST.1.1. - Cite specific textual evidence to support analysis of science and technical texts, attending to important distinctions the author makes and to any gaps or inconsistencies in the account.</p> <p>LAFS.1112.RST.2. - Craft and Structure</p> <p>LAFS.1112.RST.2.5. - Analyze how the text structures information or ideas into categories or hierarchies, demonstrating understanding of the information or ideas.</p> <p>LAFS.1112.RST.3. - Integration of Knowledge and Ideas</p> <p>LAFS.1112.RST.3.9. - Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding of a process, phenomenon, or concept, resolving conflicting information when possible.</p> <p>LAFS.1112.RST.4. - Range of Reading and Level of Text Complexity</p> <p>LAFS.1112.RST.4.10. - By the end of grade 12, read and comprehend science/technical texts in the grades 11–12 text complexity band independently and proficiently.</p>
<p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p>	<p>FL.LAFS.910.WHST. - WRITING STANDARDS FOR LITERACY IN SCIENCE AND TECHNICAL SUBJECTS</p> <p>LAFS.910.WHST.1. - Text Types and Purposes</p>	<p>LAFS.1112.WHST.1. - Text Types and Purposes</p>	<p>LAFS.1112.WHST.1. - Text Types and Purposes</p>
<p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.910.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.910.WHST.1.1.a. - Introduce precise claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that establishes clear relationships among the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.910.WHST.1.1.b. - Develop claim(s) and counterclaims fairly, supplying data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form and in a manner that anticipates the audience’s knowledge level and concerns.</p> <p>LAFS.910.WHST.1.1.c. - Use words, phrases, and clauses to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>	<p>LAFS.1112.WHST.1.1. - Write arguments focused on discipline-specific content.</p> <p>LAFS.1112.WHST.1.1.a. - Introduce precise, knowledgeable claim(s), establish the significance of the claim(s), distinguish the claim(s) from alternate or opposing claims, and create an organization that logically sequences the claim(s), counterclaims, reasons, and evidence.</p> <p>LAFS.1112.WHST.1.1.b. - Develop claim(s) and counterclaims fairly and thoroughly, supplying the most relevant data and evidence for each while pointing out the strengths and limitations of both claim(s) and counterclaims in a discipline-appropriate form that anticipates the audience’s knowledge level, concerns, values, and possible biases.</p> <p>LAFS.1112.WHST.1.1.c. - Use words, phrases, and clauses as well as varied syntax to link the major sections of the text, create cohesion, and clarify the relationships between claim(s) and reasons, between reasons and evidence, and between claim(s) and counterclaims.</p>
<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.910.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>	<p>LAFS.1112.WHST.1.1.e. - Provide a concluding statement or section that follows from or supports the argument presented.</p>
<p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>	<p>LAFS.910.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p> <p>LAFS.910.WHST.1.2.a. - Introduce a topic and organize ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.910.WHST.1.2.b. - Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience’s knowledge of the topic.</p>	<p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>	<p>LAFS.1112.WHST.1.2. - Write informative/explanatory texts, including the narration of historical events, scientific procedures/ experiments, or technical processes.</p>

	<p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.910.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among ideas and concepts.</p> <p>LAFS.910.WHST.1.2.f. - Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.910.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.910.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>	<p>LAFS.1112.WHST.1.2.a. - Introduce a topic and organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.</p> <p>LAFS.1112.WHST.1.2.b. - Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.</p> <p>LAFS.1112.WHST.1.2.c. - Use varied transitions and sentence structures to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.</p> <p>LAFS.1112.WHST.1.2.d. - Use precise language, domain-specific vocabulary and techniques such as metaphor, simile, and analogy to manage the complexity of the topic; convey a knowledgeable stance in a style that responds to the discipline and context as well as to the expertise of likely readers.</p> <p>LAFS.1112.WHST.1.2.e. - Provide a concluding statement or section that follows from and supports the information or explanation provided (e.g., articulating implications or the significance of the topic).</p> <p>LAFS.1112.WHST.2. - Production and Distribution of Writing</p> <p>LAFS.1112.WHST.2.4. - Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.</p>
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